

WOVEN FIBER PROTECTION CABLE ASSEMBLY FOR USE IN OPTICAL FIBER HYDROPHONE ARRAY

Abstract

A woven fiber protection cable assembly for use in an optical fiber hydrophone module. The assembly comprises an elastic woven fiber strap with at least one tube attached to one or more sides of the strap in a sinusoidal pattern. The strap at a first end and longitudinal middle portion is substantially aligned with the central axis of the hydrophone module. Two layers of the strap are fastened together in the longitudinal middle portion, and the first end of the strap comprises a loop. The two layers at the second end of the strap are spatially separated and on opposite sides overlap a fiber transition segment, around which one end of the tube is coiled. The elongation of the strap causes the period of the sinusoidal pattern to increase without imparting damaging stress to the optical fiber.